



Viasat's MEOLink IP trunking terminal enables emerging market telcos and ISPs to offer fiber-like performance for high-speed internet services over O3b's medium earth orbit (MEO) satellite constellation. In combination, the O3b satellites and the MEOLink terminal extend high-speed internet access to rural markets over a cost-effective satellite connection, making the internet a truly global and universal experience.

Viasat's MEOLink terminal includes precision tracking antennas, a high-speed DVB-S2 modem, and an advanced uplink power control system. The system operations are coordinated with the fully automated MEOLink monitor and control system.

### DESIGNED FOR PERFORMANCE

Viasat's pair of 4.5 meter high-precision tracking antennas, designed specifically for the O3b MEO satellite constellation, to keep continuous contact with the satellite constellation. Automatically transferring active links between setting and rising satellites when both are in view enable the continuous (no-break) service. The shaped Cassegrain reflector, stiff precision pedestal, and digital servo system combine to provide a high-performance Ka-band antenna system.

High-precision panels are supported by strong radial ribs attached to a steel hub that is integrated with the elevation housing. The reflector back structure and subreflector spars are designed to withstand stringent wind and gravity loads. Four spars support a high-precision machined subreflector. The reflector has a solar diffusive coating to minimize the effects of thermal distortions.

The mount is designed to maintain positioning even in adverse wind conditions. Both azimuth and elevation use the same precision bearing with integrated drive mechanism and low backlash.

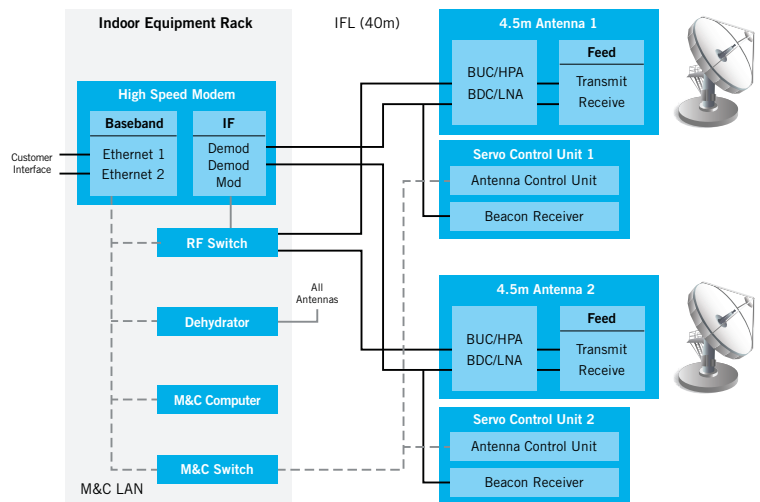
### ANTENNA CONTROL SYSTEM

The servo control system is based on Viasat's AC-4100 all digital antenna control system. This control system features:

- » Intelligent digitally controlled servo amplifiers
- » High-precision on axis optical encoders
- » Beacon receiver that provides the signal required to support the step over program track function keeping the antenna pointed at the O3b satellite

### EASE OF USE

Designed with service in mind, all of the servo components are easily accessed and can be swapped in minutes, no special tools required. The feed and the feed components are accessible using a standard ladder. The system is outfitted with spring loaded automatic lubrication devices for the main bearings. Standard grease fittings are easily accessible on the outside of the positioner making semi-annual maintenance hassle-free.



### MEOLink 4.5m ANTENNA AT-A-GLANCE

- » High-efficiency shaped Cassegrain optics
- » 4-port circularly polarized Ka-band feed
- » Precision structural steel mount and riser
- » Antenna controller with integrated GPS for precision time
- » Step track over program track augmentation for optimized MEO tracking
- » Digital servo system with high-precision optical encoders
- » Mounting provisions for HPAs and converters
- » Hot dipped galvanized finish for all pedestal and riser steel components
- » International shipment in one 20 ft ISO container

## SPECIFICATIONS

### ELECTRICAL

<b>Operating Frequency (GHz)</b>	
» Receive	17.8 to 19.3
» Transmit	27.6 to 29.1
<b>Beamwidth (3 dB)</b>	
» Receive	0.23° typical
» Transmit	0.15° typical
<b>Feed Network</b>	
» 4-port TX/RX circular polarization	
» Transmit Ports	WR34 grooved
» Receive Ports	WR42 grooved
» Transmit Power per Port	400 W CW, maximum
» TX/RX Isolation	≥85 dB
» TX/TX and RX/RX Isolation	≥18 dB
» Receive Insertion Loss	≤0.35 dB
» Transmit Insertion Loss	≤0.42 dB
<b>VSWR (TX/RX)</b>	1.25:1 at the feed network
<b>Polarization</b>	RHCP & LHCP sense selectable
<b>Axial Ratio</b>	≤0.85 dB for Transmit ≤0.90 dB for Receive
<b>Envelope</b>	1° < θ < 48° = 32-25logθ >48° = 10 dBi For 80% of all sidelobes
<b>G/T</b>	≥32 dB/K at 20° elevation
<b>EIRP</b>	≥79 dBW (with 500 W HPA) ≥69 dBW (with 40 W HPA)

### MECHANICAL

<b>Reflector</b>	
» Optics	Dual reflector, axis-symmetric
» Diameter	4.5 meter
» Panels	16 precision aluminum
» Subreflector	Solid machined aluminum
» Spars	4 aluminum
<b>Mount Type</b>	Elevation over azimuth
<b>Axis Drives</b>	
» Elevation: Slewing Drive	0.25°/s
» Azimuth: Slewing Drive	0.5°/s
<b>Antenna Travel</b>	
» Elevation	0° to 90° continuous
» Azimuth	180° continuous

### MECHANICAL (CONTINUED)

#### SERVO

- » Brushless DC Servo Motors
- » On-Axis Optical Encoders
- » Digital Servo Control
- » SGP4 Orbit Determined Program Track
- » Step Track over Program Track Augmentation
- » Integrated GPS, with available NTP time source

### ENVIRONMENTAL

<b>Temperature</b>	-20° to +48° C (operational)
<b>Humidity</b>	0 to 100% RH, condensing
<b>Wind</b>	
» Operational	64 km/h gusting to 96 km/h
» Survival	161 km/h (stow mode)
<b>Atmospheric Conditions</b>	Salt, pollutants, and corrosive contaminants as found in coastal



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